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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SHAND, ROBERTA A	
ART UNIT	**PAPER NUMBER**
2616	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/656,161	HWANG, IN TAE	
	Examiner	Art Unit	
	Roberta A. Shand	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/8/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 4-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Johansson (U.S. 6947394 B1).

3. Regarding claim 4, Johansson teaches (fig. 1) an apparatus having a radio access standard protocol architecture, wherein the improvement comprises a radio link control (RLC) layer having a transmitting transparent (col. 2, lines 10-28) mode RLC entity that converts service data units (SDUs) received from an upper layer through a transparent service access point to protocol data units (PDUs), which are submitted to a lower (col. 3, lines 45-65).

4. Regarding claims 5, 9 and 17, Johansson teaches (fig. 1) the PDUs outputted by the transmitting transparent mode entity is submitted to the lower layer thorough one of a common control channel, a dedicated control channel, a dedicated traffic channel, a shared control channel, a broadcast control channel, and a paging control channel.

5. Regarding claim 6, Johansson (col. 3, lines 45-65) the transmitting transparent mode entity includes a segmentation block that segments the SDU to the PDU without adding headers.

6. Regarding claims 7 and 10, Johansson (TABLE 1) the transmitting transparent mode entity further includes a transmission buffer.

7. Regarding claim 8, Johansson teaches (fig. 1) an apparatus having a radio access standard protocol architecture, wherein the improvement comprises a radio link control (RLC) layer having a receiving transparent (col. 2, lines 10-28) mode RLC entity that coverts protocol data units (PDUs) received through configured logical channels from a lower layer to service data units (SDUs), which are delivered to an upper layer through a transparent service access point (col. 3, lines 45-65).

8. Regarding claims 11, 18, 27, 28, 30 and 32, Johansson teaches (col. 3, lines 45-65) a reassembly block coupled to the reception buffer that reassembles the buffered PDUs to SDUs, which are delivered to the upper layer through the transparent service access point (Johansson teaches sequence numbers which inherently means reassembly and framing of the unit is required).

9. Regarding claim 12, Johansson teaches (fig. 1) an apparatus having a radio access standard protocol architecture, wherein the improvement comprises a radio link control (RLC) layer having a transmitting unacknowledged (col. 2, lines 10-28) mode RLC entity that converts

service data units (SDUs) received from an upper layer through an unacknowledged service access point to protocol data units (PDUs), which are submitted to a lower layer (col. 3, lines 45-65).

10. Regarding claim 13, Johansson teaches (col. 2, lines 10-28) the PDUs outputted by the transmitting unacknowledged mode entity is submitted to the lower layer thorough one of a common control channel, a dedicated control channel, a dedicated traffic channel, a shared control channel, a broadcast control channel, and a paging control channel.

11. Regarding claim 14, Johansson teaches (col. 3, lines 45-65) the transmitting unacknowledged mode RLC entity includes: a segmentation and concatenation block that at least one of segments and concatenates the SDUs to PDUs; and a framing block that frames the PDUs.

12. Regarding claim 15, Johansson (TABLE 1) the transmitting unacknowledged mode RLC entity includes a transmission buffer.

13. Regarding claim 16, Johansson teaches (fig. 1) an apparatus having a radio access standard protocol architecture, wherein the improvement comprises a radio link control (RLC) layer having a receiving unacknowledged (col. 2, lines 10-28) mode RLC entity that coverts protocol data units (PDUs) received through configured logical channels from a lower layer to service data units (SDUs), which are delivered to an upper layer through an unacknowledged service access point (col. 3, lines 45-65).

14. Regarding claim 19, Johansson teaches (col. 2, lines 29-45) the receiving unacknowledged mode entity further comprises: an error detection block that detects presence of error in each PDU; and a duplication detection block that detects a presence of duplicate PDU without error within the PDUs.

15. Regarding claim 20, Johansson teaches (fig. 1) an apparatus having a radio access standard protocol architecture, wherein the improvement comprises a radio link control (RLC) layer having an acknowledged (col. 2, lines 10-28) mode RLC entity that converts service data units (SDUs) received from an upper layer through an acknowledged service access point to protocol data units (PDUs), which are submitted to a lower layer through at least one logical channel (col. 3, lines 45-65).

16. Regarding claim 21, Johansson teaches (fig. 1) the acknowledged mode RLC entity includes: a segmentation/concatenation block that at least one of segments and concatenates the SDUs to PDUs (col. 3, lines 45-65); a block which adds headers to the PDUs (col. 2, lines 10-28); a retransmission buffer that stores the PDUs, the PDUs being retransmitted based on positive or negative acknowledgements of individual PDUs by a peer RLC entity (TABLE 2); and a multiplexer that multiplexes PDUs from the retransmission buffer that need to be retransmitted (col. 5, lines 15-29).

17. Regarding claim 22, Johansson teaches (col. 5, lines 15-29) the acknowledged mode RLC entity further comprises a control block that manages flow control based on status information.

18. Regarding claims 23 and 33, Johansson teaches (fig. 1) an apparatus having a radio access standard protocol architecture, wherein the improvement comprises a radio link control (RLC) layer having an acknowledged (col. 2, lines 10-28) mode RLC entity that coverts protocol data units (PDUs) received through configured logical channels from a lower layer to service data units (SDUs), which are delivered to an upper layer through an acknowledged service access point (col. 3, lines 45-65).

19. Regarding claim 24, Johansson teaches a reception buffer that buffers the PDUs (TABLE 1); a deframing block to deframe the PDUs (col. 3, lines 45-65); a control unit that detects a presence of an error in each PDU, wherein if there is an error in the PDU, the control unit requests a peer RLC to retransmit the PDU and detects a duplicate PDU and provides a status information to the peer RLC (col. 2, lines 29-45); and a reassembly block the reassembles the PDUs to SDUs (Johansson teaches sequence numbers which inherently means reassembly of the unit is required).

20. Regarding claim 25, Johansson teaches (fig. 1) an apparatus having a radio access standard protocol architecture, wherein the improvement comprises a radio link control (RLC) layer having a transparent (col. 2, lines 10-28) mode RLC entity having a transmitting side that converts service data units (SDUs) received from an upper layer through a transparent service access point to protocol data units (PDUs), which are submitted to a lower layer, and a receiving side that coverts protocol data units (PDUs) received through configured logical channels (fig. 1) from the lower layer to service data units (SDUs), which are delivered to the upper layer through

a transparent service access point; an unacknowledged (col. 2, lines 10-28) mode RLC entity having a transmitting side that converts service data units (SDUs) received from the upper layer through an unacknowledged service access point to protocol data units (PDUs), which are submitted to the lower layer, and a receiving side that coverts protocol data units (PDUs) received through configured logical channels (fig. 1) from the lower layer to service data units (SDUs), which are delivered to the upper layer through an unacknowledged service access point; and an acknowledged (col. 2, lines 10-28) mode RLC entity having a transmitting side that converts service data units (SDUs) received from the upper layer through an acknowledged service access point to protocol data units (PDUs), which are submitted to a lower layer through at least one logical channel, and a receiving side that coverts protocol data units (PDUs) received through configured logical channels (fig. 1) from the lower layer to service data units (SDUs), which are delivered to the upper layer through an acknowledged service access point.

21. Regarding claim 26, Johansson teaches (col. 3, lines 45-65) the RLC layer provides following functions: segmentation and reassembly; concatenation; padding; error correction; duplicate detection; flow control; and error detection and recovery.

22. Regarding claim 29, Johansson teaches (col. 3, lines 45-65) the unacknowledged mode RLC entity provide segmentation and reassembly, concatenation, transfer of user data, and SDU discard functions to support unacknowledged data transfer service.

23. Regarding claim 31, Johansson teaches (col. 3, lines 45-65) the acknowledged mode RLC entity provides segmentation and reassembly, concatentation, transfer of user data, error correction, in-sequence delivery, duplicate detection, flow control, error detection and recovery, and SDU discard functions to support acknowledged data transfer.

24. Regarding claim 34, Johansson teaches (col. 3, line 66 – col. 4, line 7) wherein the broadcast control entity is used to deliver RRC services, which are required at a general control service access point.

25. Regarding claim 35, Johansson teaches (col. 3, line 66 – col. 4, line 7) the broadcast control entity uses lower layer services provided by transparent service access point and unacknowledged service access point.

26. Regarding claim 36, Johansson teaches (col. 4, lines 45-52) the paging and notification control entity is used to deliver RRC services that are required at a notification service access point.

27. Regarding claim 37, Johansson teaches (col. 2, lines 10-28) the paging and notification control entity uses lower layer services provided by transparent service access point and unacknowledged service access point.

28. Regarding claim 38, Johansson teaches (col. 4, lines 45-52) the dedicated control entity is used to deliver RRC services that are required at a dedicated control service access point.

29. Regarding claim 39, Johansson teaches (col. 2, lines 10-28) the dedicated control entity uses lower layer services of unacknowledged service access point, acknowledged service access point, and transparent service access point.

Conclusion

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberta A. Shand whose telephone number is 571-272-3161. The examiner can normally be reached on M-F 9:00am-5:30pm.

31. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

32. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RS

Roberta A Shand
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